

**Notice of Allowability**

Application No.

09/982,829

Applicant(s)

GO, YONG-SUK

Examiner

Vincent E. Kovalick

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to applicant's amendment dated 1/5/06.
2. ☒ The allowed claim(s) is/are 1-7, 10-15 and 25-33 (renumbered 1-22).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

## DETAILED ACTION

### *Response to Amendment*

1. This Office Action is in response to Applicant's Amendment dated January 5, 2006 in response to USPTO Final Office Action dated October 5, 2005.

The cancellation of claims 8-9 and 16-24, and the amendments to claims 7, 10 and 11 are sufficient to place the application in a condition for allowance as set forth hereinbelow.

### *Allowable Subject Matter*

2. Claim 1-7, 10-15 and 25-33 are allowed.

3. The following is an examiner's statement of reasons for allowance:

Relative to claim 1, the major difference between the teachings of the prior art of record (USP 5,80, 540, Furuhashi et al. and USP 5,420,578, Michel) and that of the instant invention is that said prior art of record **does not teach** a bus compressing apparatus comprising at least two voltage control means connected to the corresponding bit lines, wherein each voltage control means changes the voltage level of the bit line at a different ratio from the other voltage control means.

Regarding claim 7, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** a bus decompressing apparatus comprising receiving means for receiving an analog signal formed by compressing at least n-bit data, wherein n is an integer, and wherein the analog signal included a range of possible unique voltage levels, each unique voltage level corresponding to an n-bit

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value; quantizing means for quantizing the analog signal from the receiving means, wherein the quantizing means includes at least  $(2^n - 1)$  level detectors, and wherein each one of the level detectors includes a transistor controlled by the analog signal, and output voltage control means connected to the transistor to output the quantized analog signal to the coding means in response to the analog signal; and coding means connected to the quantizing means for coding the quantized analog signal to reconstruct the n-bit data.

Relative to claim 25, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** a bus compressing apparatus for use in interfacing a controller and a display device for compressing n output signals of the controller, the bus compressing apparatus comprising: n voltage converters coupled to the corresponding output signals, wherein n is an integer and each voltage converter changes a voltage level of the corresponding output signal, and outputs of the n voltage converters are connected to produce a combined output signal in response to voltage levels of the n output signals from the controller, and wherein the combined output signal has a plurality of voltage levels representing  $n^{\text{th}}$  power of the number of output signals.

Relative to claim 29, the major difference between the teachings of the prior art of record and that of the instant invention is that said prior art of record **does not teach** a bus decompressing apparatus comprising a coding device connected to a plurality of level detectors to code quantized signals to reconstruct an n-bit data.

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***Response to Applicant's Remarks***

4. Consistent with Applicant's remarks, the amendment to claim 7 incorporating the allowable limitation of cancelled claim 9 is sufficient to make claim 7 and related dependent claims allowable.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U. S. Patent No.	6,064,771	Migdal et al.
U. S. Patent No.	5,883,925	Sinibaldi et al.
U. S. Patent No.	4,951,139	Hamnilton et al.

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***To Respond***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent E. Kovalick whose telephone number is 571-272-7669.

The examiner can normally be reached on Monday-Thursday 7:30- 4:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vincent E. Kovalick  
April 4, 2006

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."



**BIPIN SHALWALA**  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600